

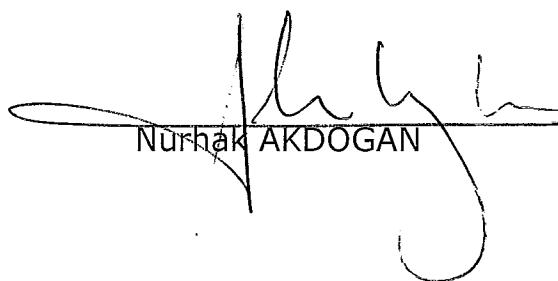
DECLARATION

I, Nurhak AKDOGAN, of PONTET & ALLANO s.a.r.l.,
6 avenue du Général de Gaulle, 78000 VERSAILLES, France
do solemnly and sincerely declare :

1. that I am well acquainted with both the English and French languages,
and
2. that the attached document is a true and correct translation of the specification and drawings accompanying the application for patent made in French Patent Application No. 03 04842 filed on 17th April 2003, the priority of which is claimed in U.S. Patent Application No. 10/553,472 filed on 17th April 2004,

and I make this declaration conscientiously believing the statement contained herein to be true in every particular.

Dated this 6th day of October 2009



Nurhak AKDOGAN

A handwritten signature in black ink, appearing to read "Nurhak AKDOGAN". The signature is fluid and cursive, with a large, stylized "N" at the beginning. It is written over a horizontal line.

"Method and device for the detection and identification of objects, secure containers and systems which are provided with this device, and objects adapted to this method"

5

The present invention relates to a method for the detection and identification of objects. It is also aimed at a device for the detection and identification of objects using this method, objects containers and systems provided with this device, as well as objects adapted to this method.

10 There is a requirement for the detection and identification of objects which are of a sensitive nature in terms of security, such as keys and bunches of keys or weapons. Lockable cabinets containing modules provided for receiving keys are already known, these receiver modules being able to be equipped with locking means. Likewise, 15 secure cabinets for storing weapons comprising devices for locking these weapons already exist.

20 The objects intended to be stored in these cabinets are generally provided with identification means such as electronic contact identification components of the "Dallas" type or components of the RF tag type. The locking devices associated with these objects include reader modules provided to cooperate with these 25 identification components.

30 In the specific case of a lockable cupboard, providing identification and locking for each key or bunch of keys provided with identification means currently requires the provision of as many reader modules as locking modules of these keys or bunches of keys. As a result, production costs are incurred for a large capacity lockable cabinet, because of the unit cost of each reader module.

35 The purpose of the present invention is to propose a method for the detection and identification of a plurality of objects, which allows a significant reduction in the cost of producing secure equipment for storing such objects.

This objective is achieved with a method for the detection and identification of an object provided with identification means and wireless transmission means, this

object being present close to one receiver module among a plurality of receiver modules, this method comprising:
- an electro-magnetic coupling between the wireless transmission means of said object and a fixed antenna which is associated with said receiver module, and
- an electro-magnetic coupling between said fixed antenna of the receiver module and a secondary fixed antenna which common to all of said fixed antenna of the receiver module, common to all of said fixed antenna of the receiver module and a secondary fixed antenna which is a electro-magnetic coupling between said fixed antenna of the receiver module and a common secondary fixed antenna being common to all of said fixed antenna of the receiver module, common to all of said fixed antenna of the receiver module and a primary fixed antenna which is connected to a reader module to read the identification data originating from said fixed antenna which is connected to a reader module which is connected to a primary fixed antenna which is connected to a secondary fixed antenna which is connected to a receiver module which is connected to a power supply, the receiver module receiving energy originating from a power supply, by inductive coupling, can an advantageous module wireless transmission means of an receiver module and a secondary fixed antenna of the receiver module, by inductive coupling, can also allow a wireless transmission of identification data from the receiver module to the reader module, to read the identification data transmitted by the identification means of said object, towards the reader module.

In an advantageous embodiment of the method according to the invention, this method comprises a processing step 35 of the identification data originating from the identification of an object, and a compression step of the identification data, the identification data being compressed into a representation which is transmitted to a receiver module which is connected to a primary fixed antenna, to read the identification means within said object. Each electro-magnetic coupling between a fixed antenna of an receiver module and a primary fixed antenna of a receiver module, can also allow a wireless transmission of identification data from the receiver module to the reader module, to read the identification data transmitted by the identification means of said object, towards the reader module.

The detection and identification method according to the invention thus allows the production of a system requiring only one reader module to communicate with a plurality of objects, which helps to significantly reduce the production costs.
The secondary fixed antenna can be electrically coupled to each of the fixed antenna of each receiver module in succession. Each electro-magnetic coupling between a fixed antenna of a receiver module and a secondary fixed antenna can be electrically coupled to the secondary fixed antenna of each receiver module in succession, to each of the fixed antenna of each receiver module in the production costs.

The detection and identification method according to the invention thus allows the production of a system requiring only one reader module to communicate with a plurality of objects, which helps to significantly reduce the production costs.
Each electro-magnetic coupling between a fixed antenna of a receiver module and a secondary fixed antenna which is connected to a primary fixed antenna which is connected to a reader module to read the identification data originating from the fixed antenna which is connected to a primary fixed antenna which is connected to a secondary fixed antenna which is connected to a receiver module which is connected to a power supply, the receiver module receiving energy originating from a power supply, by inductive coupling, can an advantageous module wireless transmission means of an receiver module and a secondary fixed antenna of the receiver module, common to all of said fixed antenna of the receiver module and a primary fixed antenna which is connected to a reader module to read the identification data originating from the fixed antenna which is connected to a primary fixed antenna which is connected to a secondary fixed antenna which is connected to a receiver module which is connected to a power supply, the receiver module receiving energy originating from a power supply, by inductive coupling, can also allow a wireless transmission of identification data from the receiver module to the reader module, to read the identification data transmitted by the identification means of said object, towards the reader module.

In a particular version of the invention, the secondary fixed reading antenna is connected to the fixed reception antenna via a plurality of link sections in a cascade each comprising an electrical link between a secondary intermediate antenna of the link section and a primary intermediate antenna of this link section and an electromagnetic coupling between this primary intermediate antenna and a secondary intermediate antenna of a following link section.

According to another aspect of the invention, a device for the detection and identification of an object provided with identification means and wireless transmission means is proposed, this object being present close to one receiver module among a plurality of receiver modules, this device comprising:

- a plurality of fixed antennae each associated with one receiver module of the plurality of receiver modules,
- means for selectively connecting one antenna of said plurality of fixed antennae to a common secondary fixed antenna,
- a primary fixed antenna electromagnetically coupled to the secondary fixed antenna, and
- a common reader module designed to read the identification data originating from said identification means, this reader module being connected to the primary fixed antenna.

The selective connection means are arranged in order to connect each fixed antenna of the module to the secondary fixed antenna in sequence.

The detection and identification device according to the invention can also advantageously comprise a power supply module connected to the primary fixed antenna, this module being arranged in order to transmit electrical energy to the identification means of an object whose wireless transmission means are in an inductive coupling with a fixed antenna of a receiver module, via the electromagnetic coupling between the primary fixed antenna and the secondary antenna and the electromagnetic coupling between the fixed antenna of the receiver module and the wireless transmission means of said object.

40	- a first part comprising:
35	The mechanical coupling part can for example comprise:
30	- an electrodynamic coupling part arranged so as
25	to engage in said mechanical coupling part.
20	- a housing arranging a mobile part aranged so as
15	to engage in the receiver housing, and
10	means of an object whose mechanical coupling part is
5	engaged in the receiver housing, and the wireless transmission means
0	between said antenna and the wireless transmission coupling so as to realize an electrodynamic coupling

- a head which includes the wireless transmission means and the identification means,
 - a shielded part for receiving the mobile part of a blocking/locking electromagnet,
- 5 - a non-reversible mechanical coupling part, and
- a second part comprising at least one housing for receiving the non-reversible mechanical coupling part of the first part.

10 Equipment according to the invention can also be arranged to store, in a secure manner, weapons provided with identification means and wireless transmission means.

According to yet another aspect of the invention, a system for the detection and identification of a vehicle on a parking space of a parking area, using the method 15 according to the invention, is proposed, characterized in that this parking space comprises a fixed reception antenna electrically connected to a primary antenna common to all of the parking spaces of this parking area and electromagnetically coupled to an antenna of a common reader module, this vehicle being equipped with an identifier module comprising an antenna arranged inside the vehicle in order to be electromagnetically coupled to the 20 fixed reception antenna of this parking space when the vehicle is parked in this parking space.

The identifier module of the vehicle can be included in one and/or more of the number plates of the vehicle, and be provided in the form of a chip or radiofrequency tag (RF tag).

30 Other advantages and characteristics of the invention will become apparent on examination of the detailed description of an embodiment which is in no way limitative, and the attached drawings in which:

- Figure 1 diagrammatically illustrates, as the prior 35 art, the principle of proximity radio frequency identification used in the detection and identification method according to the invention;
- Figure 2 diagrammatically illustrates the principle of the detection and identification method according 40 to the invention;

If the distance between the antenna AO and the antenna A2 is sufficiently small as to allow the induction of a current in antenna A2 by an antenna AO, then the power supplied by the antenna A2 to the antenna AO will be proportional to the current produced by the antenna A2.

This method uses the well known principle of proximity detection, with reference to the figures mentioned above. The operating principle of the detection and identification method according to the invention will now be described, with reference to the figures mentioned above. This method uses the well known principle of proximity detection, with reference to the figures mentioned above. The operating principle of the detection and identification method according to the invention will now be described, with reference to the figures mentioned above.

The operating principle of the detection and identification method according to the invention will now be described, with reference to the figures mentioned above. The operating principle of the detection and identification method according to the invention will now be described, with reference to the figures mentioned above.

Figure 8 illustrates an application of the method of identification for the detection and identification of vehicles in a group of parking spaces.

Figure 7 illustrates a detection and identification system for the detection and identification of vehicles according to the invention, mounted in a cascade and

Figure 6A and 6B are respectively a side view and a top view of a key ring according to the invention, top view of a key ring according to the invention, mounted in a system according to the invention and identification a detection and identification system for the detection and identification of vehicles according to the invention, mounted in a cascade and

Figure 5C is a simplified perspective view of a receiver module represented in figures 5A to 5C; receiver module corresponding to the rack of modules of equipment containing keys according to the invention, front view and a side view of a rack of receiver modules 5A, 5B and 5C are respectively a top view, a top view of a key ring according to the invention, part I of figure 4 illustrates the operation of the detection and identification method according to the invention, and figure 4 illustrates the detection and identification method according to the invention, for a group of objects, when an object is detected;

Figure 3 diagrammatically illustrates the implementation of the detection and identification method according to the invention for a group of objects,

antennae currently provided in the applications of this principle are of the order of 5 to 80 cm.

In the detection and identification method according to the invention diagrammatically illustrated in Figure 2, two antennae A3, Ai are used, electrically looped in a simple manner, which allow, without a power supply or an electronic processing device, change in the induction and data transmission phenomenon, and therefore the entire principle of proximity radio frequency identification of the prior art.

In this method according to the invention, the power supply of the electronics of a reader produces an induced current in an antenna A3. This current, reduced by line losses, takes place in the antenna coil Ai.

If the distance between the antenna A0 and the antenna Ai is sufficiently small as to allow the induction of a sufficient current, the electronics of the identifier sends its radio frequency number via the antenna A0. This number is picked up by the antenna Ai, retransmitted by the cable to the antenna A3, which retransmits it to the antenna A2. This number is then picked up by the antenna A2 and decoded by the electronics of the reader.

The detection and identification method according to the invention can be used for a group of receiver modules, as is illustrated diagrammatically by Figure 3. For this purpose, an analogue switch device is used which permits to realize a multiplexing of the antennae each associated with identifiers. In this configuration, multiple identifiers I1, ..., Ii, ..., In can be positioned in front of different antennae A1, ..., Ai, ..., An.

Different stages of the method according to the invention will now be described with reference to Figure 4 which diagrammatically illustrates a detection and identification system comprising a plurality of receiver modules.

The detection and identification device 1 comprises, with reference to Figure 1, a group of receiver modules M1, ..., Mi, ..., Mn each provided with a receiver module antenna A1, ..., Ai, ...An, a secondary antenna 3 connected in parallel to the antennae of the receiver module A1...,

At₁, ..., An, via a group S of analogue switches S₁, ..., S_t, ...Sn, a primary antenna 2 in inductively coupled with the secondary antenna 3, a reading device 10 which includes a reader module 4 and an energy supply module 4, a processing unit 6 and a module 7 for sequential control of the analog switch. 5

on a support plate 101, for example a printed circuit board, as illustrated by Figures 5A to 5D.

Each receiver module M1 comprises a housing 71 designed to receive the active part of a key C1 which includes a small glass tube 50 containing, according to techniques known in the field of RFID identification, identification electronics and a miniaturized cylindrical winding. The active part of the key C1 also comprises two recesses 51.1, 51.2 arranged so as to receive the mobile shaft 61 of a locking electromagnet E1 the fixed part 60 of which is attached to the support plate 101. This electromagnet E1 is also provided with a spring 62 which by default holds the mobile shaft 61 in the locking position of a key inserted into the receiver module M1.

15

When a key C1 is effectively inserted into a receiver module M1, its identification electronics 50 are electromagnetically coupled to a receiver antenna 73 arranged on a support plate 72 and electrically connected to an antennae switching device S of the type diagrammatically represented in Figure 4.

The receiver antenna 73 can for example be produced in the form of a printed circuit on a board made of epoxy resin or any other material supporting printed circuits.

25

The receiver module M1 also comprises, at the bottom of the receiver housing 71, a contactor component 70 provided with a mobile contact stud 75 arranged so that when a key C1 is inserted into the receiver housing 71, the end 52 of the key C1 pushes the contact stud 75, which allows, by means of an electrical circuit (not represented) which includes the contactor 70, detection of the insertion of a key into this receiver module M1. This information on the insertion is for example processed in order to selectively supply the electromagnet corresponding to this receiver module, thus helping to significantly reduce the electrical energy consumed, compared to another technical solution which consists of supplying power to all of the electromagnets of a complete system.

40

The receiver modules M1 also comprise, with reference to Figure 5D, cylindrical frontal housings provided in order

to contain light emitting diodes (LED) 77 whose selective power supply provides the user of the system with an inductor of the receiver module or modules and the selective connection of the receiver module which user is responsible for connecting other shapes and geometries than those of the antenna represented in Figures 5C and 5D. It can for example be produced in the form of a solenoid with a fine conducting wire wound around a template having any section whatever, for example circular or square. A reception antenna of the solenoid type can also be envisaged wound around a complete cylinder made of soft ferrromagnetic material in order to increase the axial number of respective coils of the two antennae which are to suffice to produce an adaptation of the geometries and exist for parts of antennae used in RFID technology. It is more generally, a large variety of possible geometries detection range.

In a particulate embodiment of a key ring which can be used in a lockable cabinet or a key shell according to the invention, illustrated by Figures 6A and 6B, the key ring C is provided by a pseudo elliptical shape allowing the shaft 61 of the electromagnet E1 to be raised during the insertion of the active part of the key ring C into the housing of the receiver module M1. The cavity provided in the active part of the key ring C is designed during the insertion of the electromagnet E1 to be raised according to its active part a part 52 with a comprises at the end of its active part a part 52 with a pseudo elliptical shape allowing the shaft 61 of the electromagnet C to be coupled.

The key ring C comprises two recesses 51.1, 51.2 and a shaft of the lockring 54.1, shaft of a lockring electromagnet and a central part 53 of the key ring and a slot 54.2 extending parallel from the active part of the key ring and a toothed central part 56 when keys have previously been placed in the key ring C.

It is possible to produce an identification and detection system according to the invention by cascading several electromagnetic coupling/electrical link sections, 5 as illustrated in Figure 7.

Thus, a detection and identification system in cascade SC can comprise, between on the one hand a fixed antenna A_i of the receiver module designed to be electromagnetically coupled to the antenna A_o of an object provided with an 10 identifier circuit I and on the other hand a secondary fixed antenna A_3 permanently electromagnetically coupled to an antenna A_2 of a reader module L which includes reading electronics EL carrying out power supply and decoding functions:

- 15 - a first electrical link 101 between the antenna A_i of the receiver module and a first secondary antenna 102 electromagnetically coupled 110 to a first primary intermediate antenna 103,
- 20 - a second electrical link 104 between the first primary intermediate antenna 103 and a second secondary intermediate antenna 105 electromagnetically coupled 111 to a second primary intermediate antenna 106, and
- 25 - a second electrical link 107 between the second primary intermediate antenna 106 and the secondary fixed antenna A_3 .

The link between the secondary fixed antenna A_3 associated with the reader module and the antenna A_i of the receiver module is thus ensured by a cascade of two link sections T1, T2 each comprising an electrical link between 30 two antennae of a section and an electromagnetic coupling between a primary intermediate antenna of this section and a secondary intermediate antenna of the following section.

This detection and identification system in cascade SC can of course include a switching system S of the type 35 represented in Figure 3 in order to allow the processing of a group of receiver modules each equipped with a reception antenna.

The detection and identification method can also be used in a system for the detection and identification of

be applied to these examples without exceeding the scope of the invention.

1. Method for the detection and identification of an object provided with identification means, this object being present close to one transmission means, this transmission means, this object being present close to one receiving module among a plurality of receiving modules, this receiving module characterized by its transmission means, this transmission means and wireless means associated with said receiving module, and an electromagnetic coupling between the wireless transmission means of said object and a fixed antenna of a secondary receiving module fixed antenna is connected to a primary receiving module which is designed to read data originating from said identification means connected to a reader module which is designed to read also comprises a transmission of information transmitted from the reader module to the identification means of a previous object.

2. Method according to claim 1, characterized in that it also comprises a transmission of information transmitted from the reader module to the identification means of a previous object.

3. Method according to claim 2, characterized in that it also comprises writing of information transmitted from the reader module into storage means within a previous module detected and identified object.

4. Method according to one of the previous claims, characterized in that the secondary fixed antenna is electrically coupled to each of the fixed antenna of each receiver module in that the secondary fixed antenna is electrically coupled to each of the fixed antenna means within a previous module in succession.

5. Method according to one of the previous claims, characterized in that each electrodynamic coupling between a fixed antenna of a receiver module and wireless means is characterized in that each electrodynamic coupling between a fixed antenna of a receiver module and wireless means within a fixed antenna of each receiver module is supplied to an object induction means of an object to supply a fixed antenna of each receiver module with an object identification signal, this signal being used to identify the object.

CLAIMS

coupling, of electrical energy originating from a power supply module connected to the primary fixed antenna.

6. Method according to claim 5, characterized in that each electromagnetic coupling between a fixed antenna of a receiver module and wireless transmission means of an object induces a transmission of identification data transmitted by the identification means of said object towards the reader module.

10

7. Method according to one of the previous claims, characterized in that it also comprises a processing of the identification data originating from the identification means of an object, and a selective control of blocking/locking means which are associated with the receiver module the antenna of which is electromagnetically coupled to the wireless transmission means of said object.

20

8. Method according to one of the previous claims, comprising:

- an electromagnetic coupling between the wireless transmission means of said object and a fixed reception antenna associated with a receiver module,

- a permanent electromagnetic coupling between a secondary fixed reading antenna and an antenna of a reader module,

characterized in that the secondary fixed reading antenna is connected to the fixed reception antenna via a plurality of link sections in cascade each comprising an electrical link between a secondary intermediate antenna of said link section and a primary intermediate antenna of said link section and an electromagnetic coupling between said primary intermediate antenna and a secondary intermediate antenna of a following link section.

35

9. Device for the detection and identification of an object provided with identification means and wireless transmission means, this object being present close to one receiver module among a plurality of receiver modules, this device comprising:

40

13. Device according to one of claims 10 to 12,
characterized in that the common secondary antenna is
electromagnetically coupled to a primary intermediate
antenna, this primary intermediate antenna being
electrically connected to a secondary intermediate
antenna electrically coupled to the primary fixed antenna
electrically connected to the reader module.

12. Device according to one of claims 9 to 11,
characterized in that it also comprises a power supply module connected to the primary fixed antenna, this module being arranged in order to transmit electrical energy to the identification means of which are inductively coupled to a transmission means of which are inductively coupled to a fixed antenna of a receiver module, via the electrostatic coupling between the primary fixed antenna and the secondary antenna and the fixed antenna of a receiver module, of the said object.

25 the identification means of which are inductively coupled to a transmission means of which are inductively coupled to a fixed antenna of a receiver module, via the electrostatic coupling between the primary fixed antenna and the secondary antenna and the fixed antenna of a receiver module, of the said object.

30 the fixed antenna of the receiver module and the wireless transmission means of the said object.

11. Device according to one of claims 9 or 10, characterized in that the selective connection means are arranged in order to connect each fixed antenna of the module to the secondary fixed antenna in sequence.

10. Device accordin to claim 9, characterized in that the common reader module is also designed to transmit information to an object close to a receiver module.

- a pluraLity of fixed antennae each associated with one receiver module among the pluraLity of receiver modules,

- means for selectively connecting one antenna of said plurality of fixed antennae to a common secondary fixed antenna,

- a primary fixed antenna electromagnetically coupled to the secondary fixed antenna, and

- a common reader module designed to read identification data originating from said identification means, this reader module being connected to the primary fixed antenna.

14. Device according to claim 13, characterized in that it also comprises a plurality of pairs of intermediate antennae each constituted by a primary intermediate antenna and a secondary intermediate antenna which are electrically connected.

5 15. Equipment for securely storing a plurality of objects each provided with identification means and wireless transmission means, comprising:

- 10 - a group of modules each designed to receive one object among said plurality of objects, each receiver module comprising means for selectively blocking/locking an object, and
- 15 - means for controlling said selective blocking/locking means,

characterized in that it also comprises a plurality of fixed antennae each associated with one receiver module among the plurality of receiver modules,

- 20 - means for selectively connecting one antenna among said plurality of fixed antennae to a common secondary fixed antenna, and
- 25 - a primary fixed antenna electromagnetically coupled to the secondary fixed antenna, and
- a common reader module designed to read identification data originating from said identification means, this reader module being connected to the primary fixed antenna and cooperating with the control means.

30 16. Equipment according to claim 15, characterized in that it also comprises electrical supplying means connected to the primary fixed antenna, which are arranged in order to supply power to the identification means of an object the wireless transmission means of which are inductively coupled to one antenna of one of the receiver modules of said equipment.

35 17. Equipment according to one of claims 15 or 16, designed for the management of a set of keys, characterized in that each receiver module comprises:

- a housing arranged to receive a mechanical coupling part of a key or a key ring, this part including the part of a fixed antenna of the module arranged close to said wireless transmission means,
- a housing so as to produce an electro-magnetic coupling between said fixed antenna and the wireless transmission means of an object to engage in said mechanical coupling part,
- 5 - an electro-magnetic comprising a mobile part arranged in engagement in the receiving housing, and means of an object to engage in said mechanical coupling part of which is between said fixed antenna and the wireless transmission coupling means of an electro-magnetic part arranged in the receiving housing so as to produce an electro-magnetic coupling between the fixed antenna and the wireless transmission means of an object to engage in said mechanical coupling part.
- 10 18. Equipment according to claim 17, characterized in that the mechanical coupling part has one end which comprises in an substantially cylindrical cavity, the wireless transmission means of the mechanical coupling part that has one end which includes the wireless transmission means and the identical coupling means of the receiving equipment.
- 15 19. Equipment according to one of claims 17 or 18, characterized in that the mechanical coupling part of a head which includes the wireless transmission means, a first part comprising:
- a head which includes the wireless transmission means,
 - a head which includes the wireless transmission means, and the identical coupling means of the receiving equipment,
- 20 - a second part comprising at least one housing receiving the non-reversible mechanical coupling part of a blocking/locking electromagnet,
- an identical part for receiving the mobile part of a blocking/locking electromagnet,
 - a head which includes the wireless transmission means, and the identical coupling means of the receiving equipment,
 - a head which includes the wireless transmission means, a second part comprising:
- 25 - a second part comprising at least one housing receiving the non-reversible mechanical coupling part, and a reversible mechanical coupling part of a blocking/locking electromagnet, the second part being arranged to store in a secure manner weapons provided with identical identification means and wireless transmission means.
- 30 20. Equipment according to one of claims 15 or 16, designed to store in a secure manner weapons provided with identical identification means and wireless transmission means.
- 35 21. Object designed to be processed by a detection and compression means for mechanical coupling with a radiofrequency with a receiver module characterized in that means designed to exchange information by proximity means compressing identification means and wireless transmission means to one of claims 1 to 8, identical identification method according to one of claims 1 to 8, compressing identifying information means and wireless transmission means transmission by proximity means designating to exchange information means and wireless transmission means to one of claims 15 or 16, designed to identify identification means and wireless transmission means.

selective blocking/locking means arranged in said receiver module.

22. Application of the method according to one of claims 1
5 to 8, for the management of keys or bunches of keys in a
lockable cabinet.

23. Application of the method according to one of claims 1
10 to 8, for the management of documents in a filing cabinet.

24. Application of the method according to one of claims 1
15 to 8, for the management of weapons in a weapons locker.

25. Application of the method according to one of claims 1
20 to 8, for the identification of a vehicle in a parking
space.

26. System for the detection and identification of a
vehicle in a parking space of a parking area, using the
method according to one of claims 1 to 8, characterized in
that this parking space comprises a fixed reception antenna
electrically connected to a primary antenna common to all
of the parking spaces of said parking area and
electromagnetically coupled to an antenna of a common
25 reader module, said vehicle being equipped with an
identifier module comprising an antenna arranged within
said vehicle in order to be electromagnetically coupled to
the fixed reception antenna of said parking space when said
vehicle is parked in said parking space.

30 27. System according to claim 26, characterized in that the
identifier module of the vehicle is included in one and/or
more of the number plates of said vehicle.

35 28. System according to claim 27, characterized in that the
identifier module of the vehicle is provided in the form of
a radiofrequency tag (RF tag).

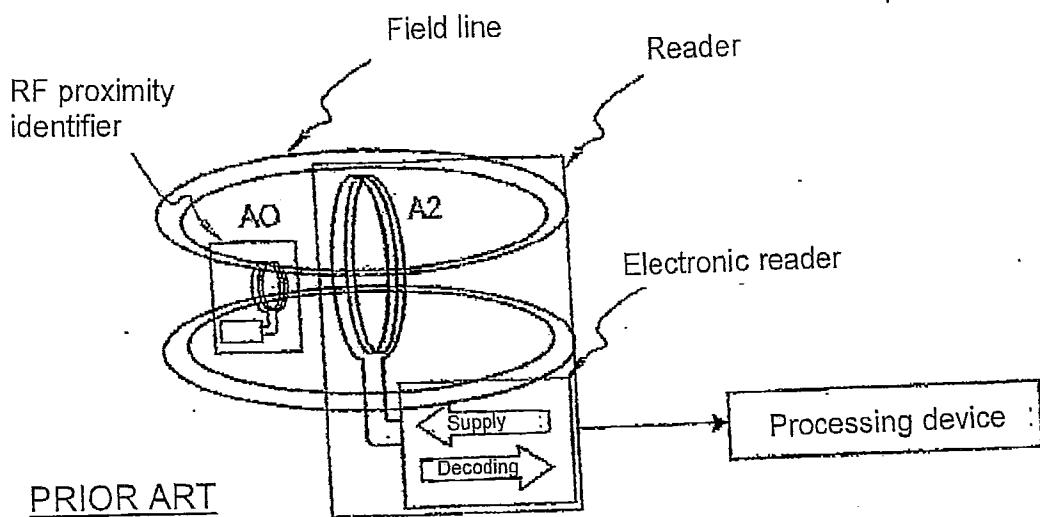


FIG.1

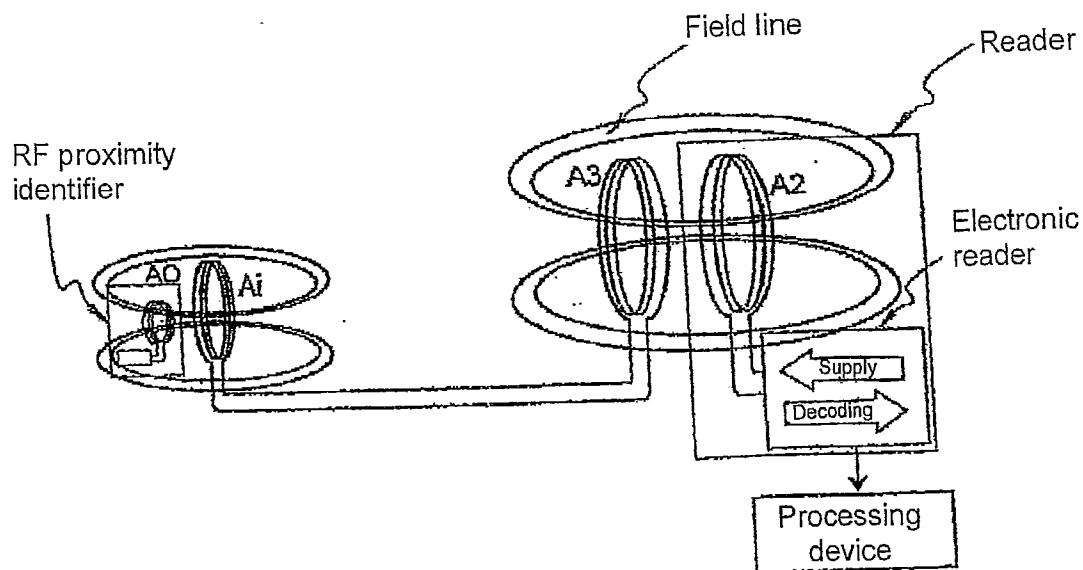


FIG.2

2/5

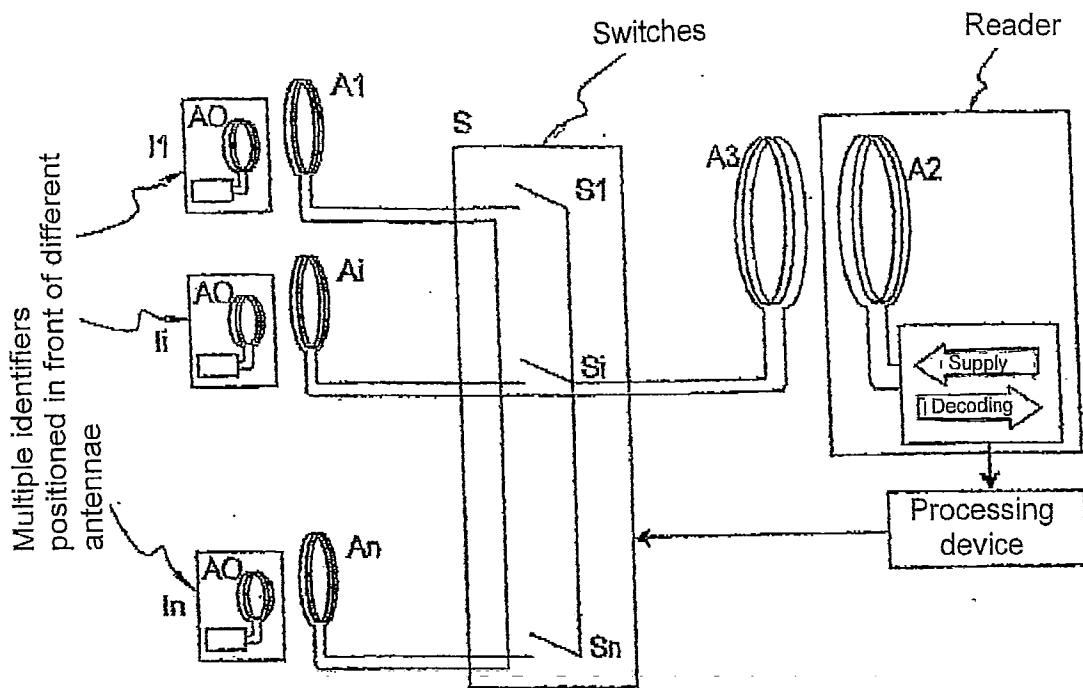


FIG.3

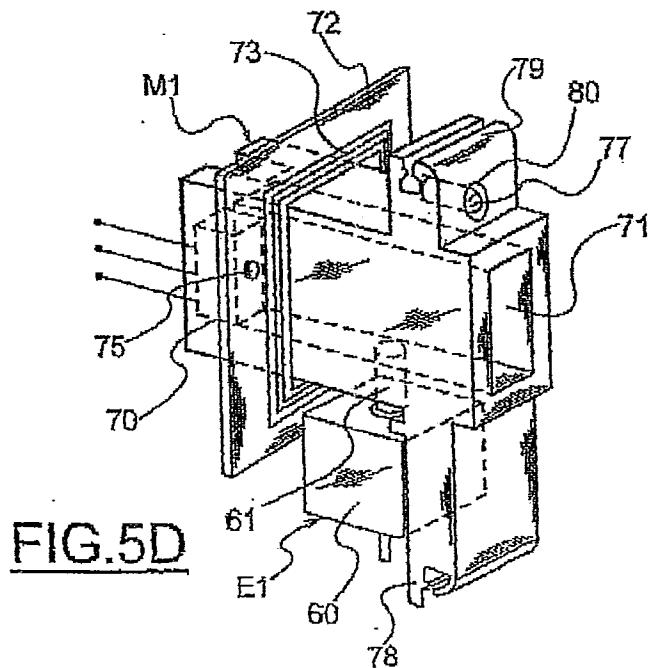


FIG.5D

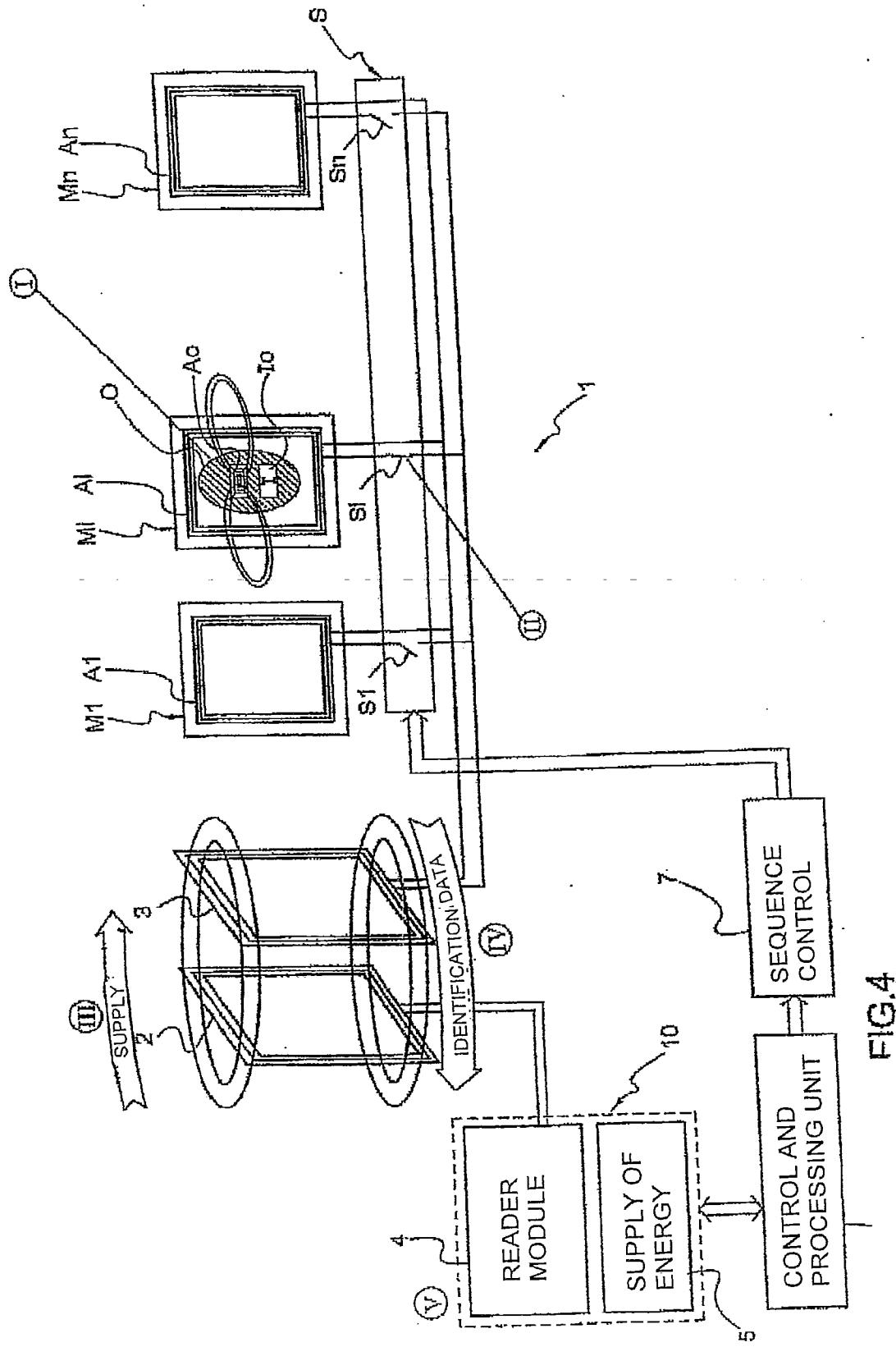


FIG.4

4/5

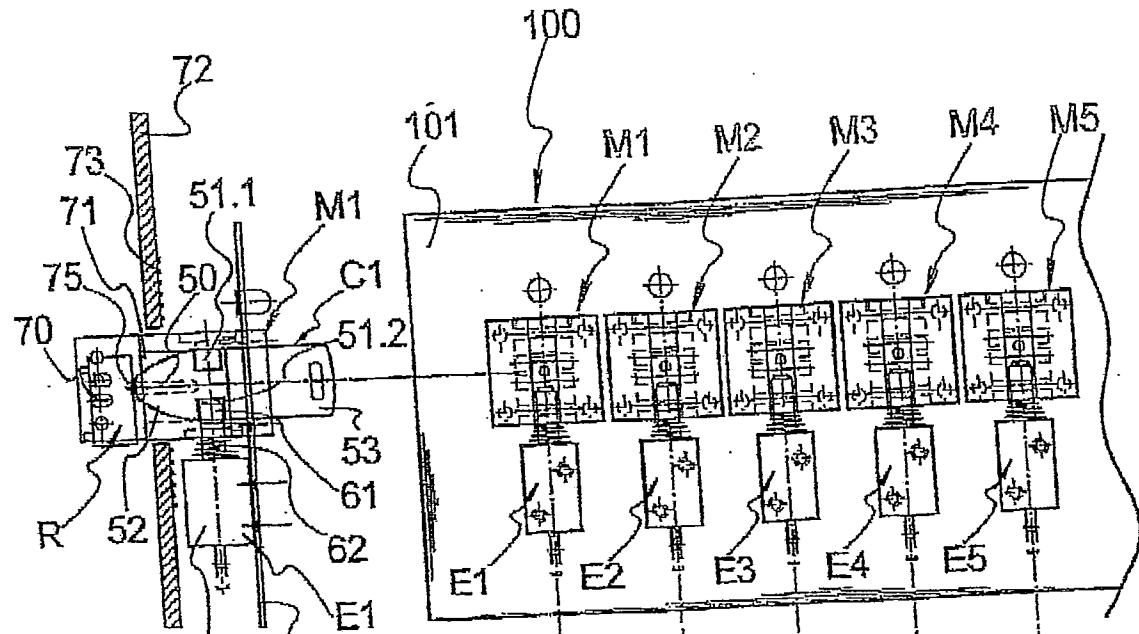


FIG.5C

FIG.5A

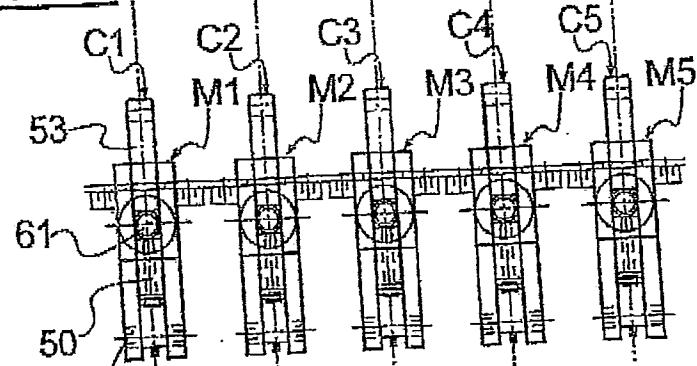


FIG.5B

FIG.6B

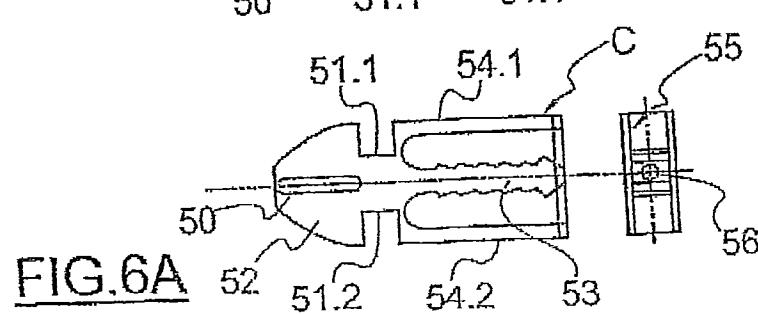
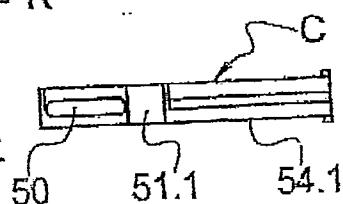


FIG.6A

